



Name _____

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The Coastal Redwoods

Coastal redwoods grow on a narrow strip of land forty-seven miles wide. This strip lies along the Pacific Coast from the Oregon-California border south for 450 miles to Monterey Bay, California. This area receives about 100 inches of rainfall and a lot of fog every year. This supplies the moisture vital for the growth of these kinds of trees.

Redwoods developed about sixty-five million years ago. They grew in North America, Asia, and Europe, in areas where the weather was warm and wet year-round. Due to climate change, by three million years ago, only three species of redwoods survived. One is in China, one is along the California coast, and one is found in the California Sierra Nevada mountains.

Redwoods live for a very long time, most living 500 to 700 years. Some specimens are much older. The oldest known tree was 2,200 years old. In contrast, oaks may live for 400 years. Maple trees seldom reach 300 years of age.

Redwoods have thick bark. It does not burn even during wildfires. The bark contains a bitter-tasting chemical that keeps insects from eating it. Redwood roots are unusually strong and wrap around other roots. This makes the trees hard to topple even in high winds. If one falls, it will send up sprouts from its stump.

Redwoods are gigantic. The tallest known one was 378 feet high (about the height of a 38-story building)! Some trunks have a diameter of twenty-two feet or more. It would take sixty adults with outstretched arms to encircle such a tree.

Check Your Understanding

1. Which of these is *not* a reason redwoods grow and survive?
 - a. They get a great deal of moisture.
 - b. They fall easily.
 - c. They can grow again by a stump sprouting.
 - d. Their roots intertwine underground.
2. How does the bark protect redwoods?
 - a. It doesn't taste good to insects.
 - b. It attracts insects.
 - c. It does not burn easily.
 - d. both a and c
3. What can you infer about the survival of redwoods now compared to millions of years ago?
 - a. There used to be many species of redwoods.
 - b. Much of Earth was wetter millions of years ago.
 - c. Most climates don't support redwood growth.
 - d. all of the above
4. From the context of the passage, what is the likely meaning of "stump sprouting"?
 - a. the process of regrowing a tree from a stump
 - b. the process of planting a stump in water
 - c. the process of growing grass on a stump
 - d. the process of growing flowers on a stump





Name _____

12**Ice Ages**

You are living in a time between ice ages. Ice ages are periods when Earth is so cold that the polar ice caps grow huge. They can last for millions of years. Such periods have occurred at irregular intervals during the last 2.3 billion years of Earth's history. In the last one billion years alone, there have been four ice ages. One of them lasted one hundred million years.

The most recent ice age was called the Pleistocene Ice Age. It started about two million years ago. It ended just 10,000 years ago. People were alive at that time. Still, it ended about 5,000 years before complex human civilizations began. During an ice age, there are periods of extreme cold called **glacials**. Warmer periods are called

interglacials. The Pleistocene Ice Age had seventeen glacials and sixteen interglacials.

The last glacial period was called the Holocene Glacial. It reached its high point about 18,000 years ago. At its height, not only were the North and South Poles covered with ice, but also much of North America, Europe, Tasmania, and New Zealand. Even Hawaii had glaciers.

An ice sheet one mile thick covered what is now London and Washington, D.C. At that time, ice covered about 40 percent of Earth's surface. Melting glaciers dug and filled the Great Lakes. The Great Salt Lake in Utah is a remnant of this last ice age, too.

Check Your Understanding

- Which of the following was the last glacial period?
 - the Pleistocene
 - the Holocene
 - the Great Lakes
 - today
- From the context of the passage, what is a **glacial**?
 - an intense cold period when ice forms
 - a warm period between ice ages
 - a period with no ice on Earth
 - a dinosaur period
- What can you infer about ice ages and the development of complex human societies?
 - Complex human societies only succeed during ice ages.
 - Human societies lived in Washington, D.C., and London during the Holocene Glacial.
 - Complex human societies developed more easily in warm periods of Earth's history.
 - There were no complex human societies before the 18th century.
- From the context of the passage, which word is an antonym for **glacial**?
 - ice age
 - society
 - glacier
 - interglacial

